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A P P E N D I X.

THE following papers, being transmitted by candidates for the premium which was offered by the society “for the best method of preventing the premature decay of peach trees,” were considered as very deserving of public attention. It was therefore determined that the premium of *sixty dollars* should be divided between their respective authors, and that the papers should be inserted in the Transactions.

No. I.

Account of a Method of Preventing the premature Decay of Peach Trees. By JOHN ELLIS, of New-Jersey.

THE decay of peach trees is owing to a worm, which originates from a large fly, that resembles the common wasp: this fly perforates the bark and deposits an egg in the moist or sappy part of it. The most common place of perforation is at the surface of the earth, and as soon as the worm is able to move, it descends into the earth, probably from an instinctive effort to avoid the winter's frost. This may be ascertained by observation, the tract of the worm from the seat of the egg being visible at its beginning, and gradually increasing, in correspondence with the increasing size of the

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worm; its course is always downwards. The progress of the young worm is extremely slow, and if the egg is deposited at any considerable distance above the surface of the earth, it is long before the worm reaches the ground. The worms are unable to bear the cold of winter unless covered by the earth, and all that are above ground after frost are killed.

By this history of the origin, progress and nature of the insect, we can explain the effects of my method, which is as follows: in the spring, when the blossoms are out, clear away the dirt so as to expose the root of the tree, to the depth of three inches; surround the tree with straw about three feet long, applied lengthwise, so that it may have a covering one inch thick, which extends to the bottom of the hole, the butt ends of the straw resting upon the ground at the bottom. Bind this straw round the tree with three bands, one near the top, one at the middle, and the third at the surface of the earth, then fill up the hole at the root, with earth, and press it closely round the straw. When the white frosts appear, the straw should be removed and the tree should remain uncovered until the blossoms put out in the spring.

By this process the fly is prevented from depositing its egg within three feet of the root, and although it may place the egg above that distance, the worm travels so slow that it cannot reach the ground before frost, and therefore is killed before it is able to injure the tree.

The truth of the principle is proved by the following fact—I practised this method with a large number of peach trees, and they flourished remarkably, without any appearance of injury from the worm, for several years; I was then induced to discontinue the straw with about twenty of them. *All those which are without the straw have declined, while the others which have had the straw continue as vigorous as ever.*

Description